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12/1/86

Occidental Chemical Corporation

SCHEDULE & ACTIVITY LIST

Hyde Park Requisite Remedial Technology Program

December 1986
Ref. No. 1069

CONESTOGA-ROVERS & ASSOCIATES

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1.0 INTRODUCTION

The following activity list presents the activities to be performed in accordance with the Hyde Park Landfill Stipulation on Requisite Remedial Technology Program (November 26, 1985) and the remaining activities of the Hyde Park Landfill Stipulation and Judgment Approving Settlement Agreement (January 19, 1981). These activities are to be read in conjunction with the enclosed Hyde Park Project Management Schedule.

Pertinent information relating to each activity has been cross referenced to the RRT Program or the Settlement Agreement Documents.

2.0 ASSUMPTIONS

In order to transfer all of the information contained in the RRT Program and the Settlement Agreement into a project management schedule, it was necessary to make several assumptions.

The Management Schedule assumes:

(1) That for each activity, the maximum time allowable in the Judgments will be taken by Hooker to complete the activity; it is to be noted that the work will be done as expeditiously as possible.

(2) That the EPA/State will take the maximum time for the initial review allowable in the Judgments for review

(3) That following the period of review, Hooker will revise plans as needed and that approval will be granted of the revised submittal before the allowable time to petition the court.

(4) That the activity duration allowed for plan development is equal to the activity duration allowed for the EPA/State review where scheduling allowances are not specified.

(5) That the concepts for all Requisite Remedial Activities will be submitted and approved before detailed engineering plans will be undertaken.

(6) That the term "initiate" is defined as the beginning of physical field activity, or in the case of Requisite Remedial Technology, as the submission of detailed engineering plans.

(7) Although not shown on the schedule of activities, as-built drawings and summary documentation will be submitted to the EPA/State in a timely manner following completion of field activity tasks.

(8) Although the schedule does not reflect the impact of seasonal variations on activity completion, it is to be noted that some of the field activities are weather dependent and may result in temporary program delays should these activities fall within unsuitable weather periods.

(9) That no Requisite Remedial Technology Studies will be required. Should this not be the case, the timing shown on the schedule may be impacted pending the results of the study.

3.0 PROJECT MANAGEMENT SCHEDULE

3.1 GENERAL

The Project Management Schedule identifies all of the major activity tasks that have been developed. Each task has been scheduled on the basis that all activities and the necessary approvals will be completed on time. Additional courses of action resulting from extra RRT studies and all possible Court petition proceedings have not been included on the flow diagram as the schedule would become unmanageable. If any of the schedule activities indicate that further studies are required or if an unresolved problem leads to a Court petition, the Project Management Schedule can be updated to reflect their impacts.

3.2 REPEAT PERFORMANCE REQUIREMENTS

The Documents identify activity procedures which are repeated several times throughout the Project Management Schedule. These are the approval procedures for all plans submitted to the EPA/State.

The following briefly describes the details of each of these approval procedures which are illustrated on Figure 1.

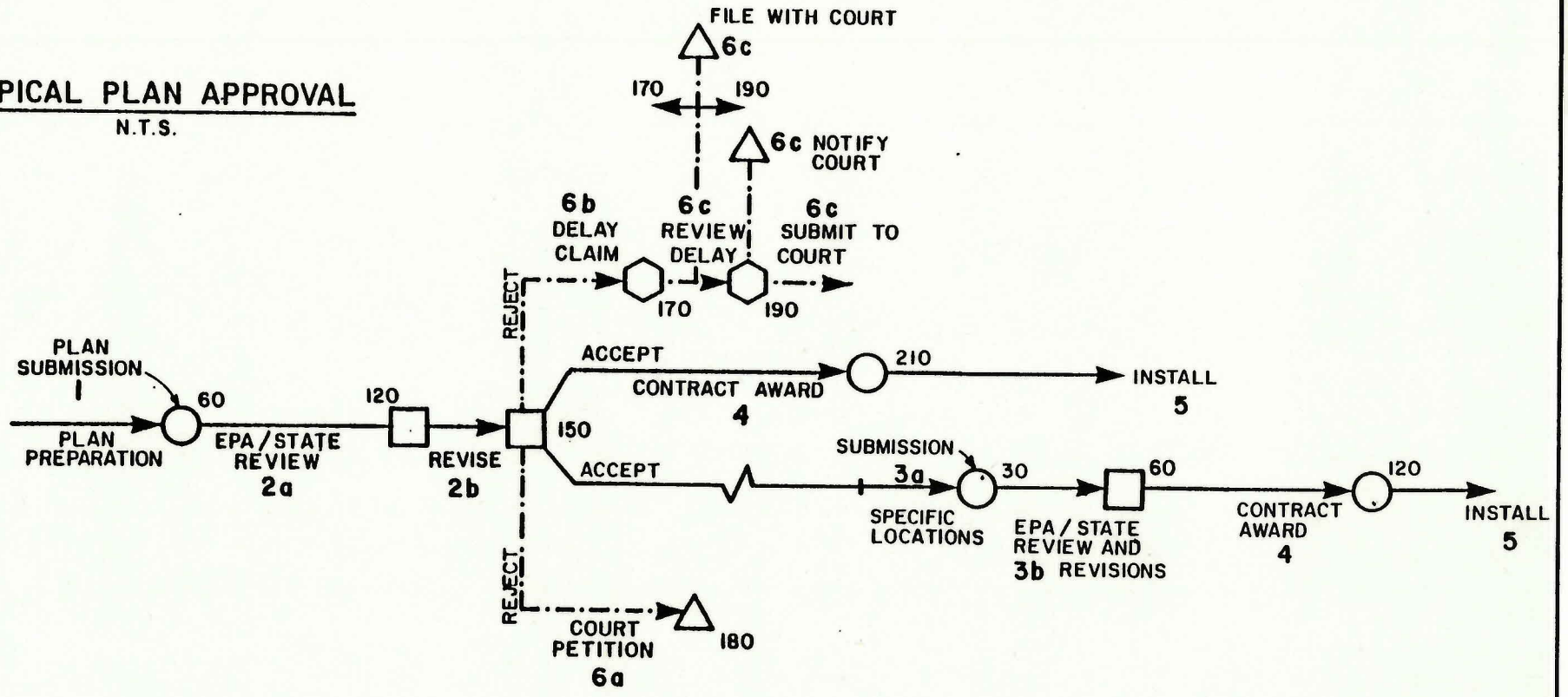

figure 1

TYPICAL PLAN APPROVAL PROCEDURE
HYDE PARK REMEDIAL PROGRAM
Occidental Chemical Corporation

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3.2.1 Plan Approval Procedure

1) Prepare

- Prepare plans, specifications and protocols and submit to the EPA/State (60 days).

Reference - Page 11, Items 6(f) and 7(a) of the Settlement Agreement

2) Review

- EPA/State shall review the submitted plans, specifications and protocols (60 days).

Reference - Page 12, Items 7(b) and (c) of the Settlement Agreement

- Hooker shall revise and resubmit the plans, specifications and protocols and EPA/State shall review once again (30 days).

Reference - Page 12, Item 7(b) of the Settlement Agreement

3) Locate

- In cases where general plans, specifications and protocols have already been approved for a particular program, finalization of minor details (i.e. locations) will require submittal to EPA/State for approval (30 days).

- EPA/State shall review the submitted locations and minor details (30 days).

4) Award

- Hooker shall solicit bids, award contracts and authorize activity performance (60 days).

Reference - Item 7(d) of the Settlement Agreement

5) Install

- Construction or installation of specific program (duration as specified).

6) Reject

- If the plans, specifications and protocols are not accepted, and if subsequent revisions cannot be agreed

upon, either party may petition the Court to determine whether the submission is consistent with the Judgment (30 days).

Reference - Page 10, Items 7(b) and (c) of the Settlement Agreement

- If the plans, specifications and protocols are not accepted, Hooker shall notify all parties to the Judgment of a possible delay and provide EPA/State with specific information regarding the delay (20 days).

Reference - Page 12, Item 8(a) of the Settlement Agreement

- The EPA/State will review the circumstances concerning the delay. If the delay is deemed to be justified, a stipulation to that effect will be filed with the Court. If the delay is not deemed to be justified, Hooker shall so advise the Court. Either party may then submit the matter to the Court for resolution (20 days).

Reference - Page 12, Items 8(b) and (c) of the Settlement Agreement

3.3 PROJECT DELAY

The following briefly describes the delay procedure specified in the Settlement Agreement. Hooker shall use its best efforts to minimize or avoid any delay or prevention of the performance of its obligations.

1) Hooker shall notify all parties to the Judgment of any anticipated delay or prevention of compliance with any term or condition of the Judgment (20 days).

   Reference - Page 12, Item 8(a) of the Settlement Agreement

2) The EPA/State will review the circumstances concerning the delay. If the delay or prevention is deemed to be justified and if a resolution is mutually agreed upon, a stipulation to that effect will be filed with the court. If the delay is not deemed to be justified Hooker shall so advise the court. If agreement cannot be reached mutually, either party may submit the matter to the court for resolution (20 days).

   Reference - Page 12, Items 8(b) and (c) of the Settlement Agreement

3.4 OBTAINMENT OF AUTHORIZATION

Hooker shall use its best efforts to obtain on a timely basis, authorizations including permits, easements, rights of way, rights of entry, and approvals which are persuant to the S-Area Judgment. As specified on Page 14 Item 8(d) of the same Judgment, Hooker shall notify the EPA/State if not able to obtain such an authorization, satisfactorily. In such a circumstance, the government bodies shall use their best efforts to assist in obtaining all such authorizations which Hooker was unable to obtain or which contained terms and conditions which effectively prevent compliance with the terms and conditions of the Judgment.

If by agreement with the governmental parties and Hooker a specific authorization cannot be obtained and a mutually satisfactory solution can be reached a stipulation to such effect will be submitted to the court, otherwise any of the parties may petition the court to effect resolution of the matter.

3.5 HEALTH AND SAFETY

In conjunction with the plans, specifications and protocols for each study or construction

activity, a plan outlining the implementation of appropriate health and safety requirements of Addendum V shall also be submitted. The health and safety plan will provide sufficient detail so as to be applicable for the remedial programs to be undertaken.

4.0 ACTIVITY LIST - PROJECT MANAGEMENT SCHEDULE

A. Schedule

A-1 Hooker shall prepare and submit to EPA/State a schedule containing all activities in the RRT Program and remaining activities of the Settlement Agreement (60 days).

Reference - Section 1.1 of the RRT Program
Prerequisites - Effective Date
Successors - A-2

A-2 EPA/State shall review the submitted schedule (30 days).

Hooker shall revise and resubmit the proposed schedule (30 days).

Reference - Page 10, Item 6(c) of the Settlement Agreement
Prerequisites - A-1
Successors - C-3, C-5, E-1, E-10, K-1, K-7

B. Treatment and NAPL Facility

B-1 Hooker shall construct the on-site storage facility.

Reference - Sections 11.5 and 1.1.1(e) of the RRT Program

Prerequisites - Filing Date, L-1

Successors - B-4, D-1c, E-7c, F-1c

B-1a Plans, specifications and protocols previously submitted.

B-1b EPA/State review (complete) and revisions (90 days).

B-1c Contract preparation and award (60 days).

B-1d Construct on-site storage facility including OBCS laterals (150 days).

B-2 Hooker shall construct the on-site treatment facility. 300 days

Reference - Sections 11.5 and 1.1.1(c)-(e) of the RRT Program

Prerequisites - Effective Date, L-1

Successors - B-4, D-1c, E-7c, F-1c

B-2a Prepare and submit plans, specifications and protocols (Treatment Facility Engineering Report already submitted) and EPA/State review (30 days) and revisions (30 days)

B-2b Prepare and submit Treatment Facility Design Details (120 days) and EPA/State review (30 days) and revisions (30 days)

B-2c Contract preparation and award (60 days).

B-2d Install on-site treatment facility (300 days).

B-3 Hooker shall continue the pursuit of approvals for NAPL incineration (730 days).

Reference - Sections 1.1.1(e) and 11.7 of the RRT Program

Prerequisites - Filing Date

Successors - B-4, D-2c, E-6d, F-3c, F-14

B-4 Hooker shall close the lagoon operations after suitable facilities are available for NAPL treatment and incineration and all NAPL is removed (180 days assumed).

Reference - Page I-30, Items E(5)-(8) of the Settlement Agreement

Prerequisites - B-2, B-3

Successors - K-7d

C. Plans and Specifications

C-1 Hooker shall prepare a general set of plans, specifications and protocols for the installation of all monitoring wells or borings, all purge and recirculation wells and all on-site extraction wells included in the RRT Program. (High Priority Well/ Borehole Specifications already submitted and approved).

Prerequisites - Filing Date

Successors - D-1, D-2, D-5, E-3*, E-5, E-7, F-1, F-2, F-3, F-5, F-7, F-9, F-13, F-15, F-16, F-17, G-1, H-1, J-1*, K-5

* Denotes - high priority activity

C-1a Prepare and submit plans, specifications and protocols (180 days).

C-1b EPA/State review (30 days) and revisions (30 days).

C-2 Hooker shall prepare a general set of plans, specifications and protocols for the installation of all forcemains and pumphouses involved in the RRT Program.

Prerequisites - Filing Date

Successors - D-3, D-6, E-6, F-4, F-6, F-10, F-14

C-2a Prepare and submit plans, specifications and protocols (180 days).

C-2b EPA/State review (30 days) and revisions (30 days).

D. Source Control (Chapter 2)

D-1 Hooker shall install 7 exploratory observation wells/piezometers in the overburden on the Hyde Park Landfill.

Reference - Section 2.2(A) of the RRT Program
Prerequisites - C-1, L-2
Successors - D-2, D-3

D-1a Specific locations (30 days) and EPA/State review (30 days).

D-1b Contract preparation and award (60 days).

D-1c Install 7 observation wells (10 days).

D-2 Hooker shall install 2 prototype (large diameter) extraction wells in the overburden on the Hyde Park Landfill.

Reference - Section 2.2(A) of the RRT Program
Prerequisites - B-2, B-3, C-1, D-1, L-2
Successors - D-3c

D-2a Specific locations (30 days) and EPA/State review (30 days).

D-2b Contract preparation and award (60 days).

D-2c Install 2 extraction wells (5 days).

D-3 Hooker shall install pumphouses at each extraction well location and a forcemain to transport liquids to the treatment facility.

Reference - Section 2.2(A) of the RRT Program
Prerequisites - C-2, D-1, D-2, L-1
Successors - D-4

D-3a Specific locations (30 days) and EPA/State review (30 day).

D-3b Contract preparation and award (60 days).

D-3c Install forcemain and 2 pumphouses (30 days).

D-4 Hooker shall monitor extraction wells (D-2) for NAPL collection and water elevations shall be monitored in all the extraction and monitoring wells (D-1). Assessment of this prototype system will determine whether the operational program will be installed (180 days - assumed).

Reference - Section 2.2(A) of the RRT Program
Prerequisites - D-3
Successors - D-5, D-6

D-5 Hooker shall install up to 4 additional extraction wells in the overburden on the Hyde Park Landfill.

Reference - Section 2.2(B) of the RRT Program

Prerequisites - C-1, D-4, L-2

Successors - D-6c

D-5a Specific locations (30 days) and EPA/State review (30 days).

D-5b Contract preparation and award (60 days).

D-5c Install additional extraction wells (15 days).

D-6 Hooker shall install pumphouses at each additional extraction well location and a forcemain connecting to the prototype forcemain system.

Reference - Section 2.2(B) of the RRT Program

Prerequisites - C-2, D-4, D-5, L-1

Successors - D-7, K-7d

D-6a Specific locations (30 days) and EPA/State review (30 days).

D-6b Contract preparation and award (60 days).

D-6c Install additional forcemain and pumphouses as appropriate (60 days).

D-7 Hooker shall continue monitoring prototype and operational systems and reassess when necessary.

Reference - Section 2.2(C) and 2.3 of the RRT Program

Prerequisites - D-6

Successors - none

E. Overburden RRT (Chapter 3)

E-1 Hooker shall complete the Utility Trench Investigation and prepare and submit to EPA/State a report identifying the results and proposed remedial work.

Reference - Page I-8, Item B(4) of the Settlement Agreement

Prerequisites - L-1, L-2

Successors - E-6d, K-4d

E-1a Prepare and submit plans, specifications and protocols (60 days).

E-1b EPA/State review (60 days) and revisions (30 days).

E-1c Contract preparation and award (60 days).

E-1d Complete investigation and report (90 days).

E-1e EPA/State review (60 days) and revisions (30 days).

E-1f Contract preparation and award (60 days).

E-1g Complete remedial work (90 days).

E-2 Hooker has completed the Swale Survey and submitted a report to EPA/State identifying the results and proposed remedial work.

Reference - Page I-6, Items B(2) and (3) of the Settlement Agreement

Prerequisites - Filing Date

Successors - E-6d, K-7d

E-2a Plans, specifications and protocols have already been submitted.

E-2b EPA/State review (COMPLETE) and revisions (120 days). (The RRT Study of the swales recommended inclusion of the Gamma swale within the alignment of the OBCS and excavation at the Beta Swale. Remedial work will be completed in conjunction with activity E-6d).

E-3 Hooker shall install exploratory borings and survey wells to refine the boundaries of the NAPL and APL Plumes in the overburden.

*** High Priority Activity ***

Reference - Sections 1.1.1., 3.2, 3.3.1., 3.3.2 and 3.3.3 of the RRT Program

Prerequisites - C-1 - High Priority (but to be completed within 180 days prior to the installation of the OBCS)

Successors - E-4

E-3a Contract preparation and award (30 days).

E-3b Install 4 exploratory borings and 10 survey wells (15 days).

E-4 Hooker shall sample the survey wells and refine the plumes using all available data (90 days).

Reference - Section 3.3.2 and 3.3.3 of the RRT Program

Prerequisites - E-3

Successors - E-5

E-5 Hooker shall initially locate OBCS and take borings along proposed route at a maximum of 100-foot centers to ensure that the OBCS is located to satisfy objectives.

Reference - Section 3.3.1 of the RRT Program

Prerequisite - C-1, E-4, L-2

Successors - E-6, E-7, F-1, F-3, F-4, F-5, F-6, G-1

E-5a Specific locations (30 days) and EPA/State review (30 days).

E-5b Contract preparation and award (60 days).

E-5c Install alignment borings (20 days).

E-6 Hooker shall install the Overburden Barrier Collection System to contain mobile NAPL and to maximize the collection of NAPL in the overburden.

Reference - Section 3.4 and 3.7 of the RRT Program
Prerequisites - B-2, B-3, C-2, E-1, E-2, E-5, L-1
Successors - E-7c

E-6a Prepare and submit plans, specifications and protocols (60 days).

E-6b EPA/State review (60 days) and revisions (30 days).

E-6c Contract preparation and award (60 days).

E-6d Install Overburden Barrier Collection System (120 days).

E-7 Hooker shall install 8 monitoring well pairs with at least one well of each pair outside the APL plume boundary.

Reference - Section 3.6.1 of the RRT Program
Prerequisites - C-1, E-5, E-6, L-2
Successors - E-8, K-1d

E-7a Specific locations (30 days) and EPA/State review (30 days).

E-7b Contract preparation and award (60 days).

E-7c Install 8 monitoring well pairs (20 drilling days).

E-8 Hooker shall monitor the OBCS with a system of overburden wells immediately inside and outside the APL Plume (E-7). These wells will be monitored for water levels and sampled semi-annually.

Reference - Sections 3.5, 3.6.2 and 3.7 of the RRT Program
Prerequisites - E-7
Successors - none (possible RRT)

E-9 Hooker shall undertake an Industrial Protection Program to protect those working at industrial facilities adjacent to the landfill (30 working days).

*** High Priority Activity***
Reference - Section 3.8 of the RRT Program
Prerequisites - Effective Date
Successors - none

E-10 Hooker shall notify by mail all underground utility agencies and property owners to contact Hooker before undertaking any subsurface programs in the overburden plume (1 day).

Reference - Section 3.9 of the RRT Program
Prerequisites - E-4
Successors - none

F. Lockport RRT (Chapter 4)

F-1 Hooker shall install 8 pairs of NAPL plume definition wells and convert each to a deep piezometer. Sixteen piezometer pairs shall also be installed as shallow and intermediate APL migration wells.

Reference - Sections 4.3.1.1 and 4.3.7.3 of the RRT Program

Prerequisites - C-1, E-4, E-5, L-2

Successors - F-2a, F-3c, F-5c, F-7a, F-16, F-17, G-1

F-1a Specific locations (30 days) and EPA/State review (30 days).

F-1b Contract preparation and award (60 days).

F-1c Install 16 monitoring well nests (150 days).

F-2 Hooker shall install 8 cluster performance well nests approximately 400 feet outside the refined boundary of the NAPL plume in the APL Plume.

Reference - Section 4.3.6.1 of the RRT Program

Prerequisites - B-2, B-3, C-1, F-1, L-2

Successors - F-7c, F-8

F-2a Specific locations (30 days) and EPA/State review (30 days).

F-2b Contract preparation and award (60 days).

F-2c Install 8 monitoring well nests (60 days).

F-3 Hooker shall install 2 prototype purge wells to contain the NAPL plume in the bedrock.

Reference - Sections 4.2.1 and 4.3.2 of the RRT Program

Prerequisites - C-1, E-4, E-5, F-1, L-2

Successors - F-4c, F-5c, F-7c, F-16, F-17

F-3a Specific locations (30 days) and EPA/State review (30 days).

F-3b Contract preparation and award (60 days).

F-3c Install 2 purge wells (50 days).

F-4 Hooker shall install pumphouses at each purge well location and a forcemain to transport liquids to the treatment facility.

Reference - Section 4.3.3 of the RRT Program

Prerequisites - C-2, E-4, E-5, F-3, L-1

Successors - F-6c, F-8

F-4a Specific locations (30 days) and EPA/State review (30 days).

F-4b Contract preparation and award (60 days).

F-4c Install forcemain and 2 pumphouses (60 days).

F-5 Hooker shall install 2 recirculation wells in order to accelerate NAPL collection from the bedrock.

Reference - Sections 4.2.1 and 4.3.4 of the RRT Program

Prerequisites - C-1, E-4, E-5, F-3c, L-2

Successors - F-6c

F-5a Specific locations (30 days) and EPA/State review (30 days).

F-5b Contract preparation and award (60 days).

F-5c Install 2 recirculation wells (50 days).

F-6 Hooker shall install a pumphouse at the treatment facility and a forcemain to transport liquids to the recirculation wells.

Reference - Section 4.3.3 and 4.3.4 of the RRT Program

Prerequisites - C-2, E-4, E-5, F-4c, F-5c, L-1

Successors - F-8

F-6a Specific locations (30 days) and EPA/State review (30 days).

F-6b Contract preparation and award (60 days).

F-6c Install forcemain and pumphouse (40 days).

F-7 Hooker shall install 3 cluster monitoring well nests within the NAPL Plume to monitor the NAPL Containment System.

Reference - Section 4.3.6.1 of the RRT Program
Prerequisites - C-1, E-5, F-1, F-2, F-3a, L-2
Successors - F-8

F-7a Specific locations (30 days) and EPA/State review (30 days).

F-7b Contract preparation and award (60 days).

F-7c Install 3 cluster monitoring well nests (50 days).

F-8 Hooker shall operate, collect and analyze data from the NAPL Plume prototype purge wells and assess the need for more purge wells (180 days - assumed).

Reference - Section 4.3.2 and 4.3.5 and 4.3.6.2 of the RRT Program
Prerequisites - F-6, F-7
Successors - F-9, F-10

F-9 Hooker shall install 2 additional purge wells with locations to be determined pending results of the assessment of the prototype purge well system.

Reference - Section 4.3.2 of the RRT Program
Prerequisites - C-1, F-8, L-2
Successors - F-10c

F-9a Specific locations (30 days) and EPA/State review (30 days).

F-9b Contract preparation and award (60 days).

F-9c Install 2 purge wells (50 days).

F-10 Hooker shall install pumphouses at each additional purge well location and a forcemain to transport liquids to the treatment facility.

Reference - Section 4.3.2 of the RRT Program
Prerequisites - C-2, F-8, F-9, L-1
Successors - F-11, F-12

F-10a Specific locations (30 days) and EPA/State review (30 days).

F-10b Contract preparation and award (60 days).

F-10c Install additional forcemain and pumphouses (30 days).

F-11 Hooker shall monitor the NAPL Plume Containment System with a system of performance wells (F-2) outside of the NAPL Plume and cluster monitoring wells (F-7) inside the NAPL Plume. Water levels and samples will be taken on a regular basis as specified.

Reference - Sections 4.3.6, 4.3.7 and 4.3.8 of the RRT Program
Prerequisites - F-10
Successors - none (Possible RRT)

F-12 Hooker shall assess whether there is an inward gradient across the north and west boundaries of the NAPL Plume and the affects of the possible operation of 2 purge wells at the Gorge Face (180 days - assumed).

Reference - Section 4.2.3 of the RRT Program
Prerequisites - F-10
Successors - F-13, F-14, F-15

F-13 Hooker shall install 2 purge wells near the Gorge Face if it is determined that such action will not adversely affect the inward gradient of the NAPL Plume (see F-12). If necessary, a third purge well will be added.

Reference - Sections 1.1.3, 4.2.2 and 4.4.1.1 of the RRT Program

Prerequisites - C-1, F-12, L-2

Successors - F-14c, F-15c

F-13a Specific locations (30 days) and EPA/State review (30 days).

F-13b Contract preparation and award (60 days).

F-13c Install 2 purge wells (50 days).

F-14 Hooker shall install pumphouses at each purge well location and a forcemain to transport liquids to the treatment facility.

Reference - Sections 1.1.3 and 4.4.1.4 of the RRT Program

Prerequisites - C-2, F-12, F-13

Successors - F-15c, F-18, K-1d

F-14a Specific locations (30 days) and EPA/State review (30 days).

F-14b Contract preparation and award (60 days).

F-14c Install forcemain and 2 pumphouses (60 days).

F-15 Hooker shall install 4 piezometer pairs along the remediated APL Plume boundary (one inside and one outside) to monitor hydraulic performance.

Reference - Sections 4.2.2 and 4.4.1.1 of the RRT Program

Prerequisites - C-1, F-12, F-13, L-2

Successors - F-18

F-15a Specific locations (30 days) and EPA/State review (30 days).

F-15b Contract preparation and award (60 days).

F-15c Install 4 piezometer pairs (50 days).

F-16 Hooker shall install 3 flux monitoring well nests to monitor the APL Plume flux to the Niagara River.

Reference - Section 4.4.1.2 of the RRT Program

Prerequisites - C-1, F-3, L-2

Successors - F-17c

F-16a Specific locations (30 days) and EPA/State review (30 days).

F-16b Contract preparation and award (60 days).

F-16c Install 3 flux monitoring well nests (50 days).

F-17 Hooker shall install 3 piezometer clusters to monitor gradients in the APL Plume north and east of the landfill site.

Reference - Section 4.4.1.3 of the RRT Program

Prerequisites - C-1, F-1, F-3, F-16, L-2

Successors - F-18

F-17a Specific locations (30 days) and EPA/State review (30 days).

F-17b Contract preparation and award (60 days).

F-17c Install 3 piezometer clusters (50 days).

F-18 Hooker shall monitor the APL Plume Containment System through regular water level measurements to check for flow convergence, examination of Gorge Face seepage and flux calculations.

Reference - Sections 4.4.2 to 4.4.4 of the RRT Program

Prerequisites - F-14, F-15, F-17

Successors - H-1 (Possible RRT)

F-19 EPA, the State, OCC and other parties which agree to participate, including Canada and Ontario shall conduct a study of TCDD in the water, sediment, and fish of the Niagara River and Lake Ontario (3 years).

Reference - Section 1.1.1(b) and 4.4.3 of the RRT Program

Prerequisites - Filing Date

Successors - none

F-19a Any entity which agrees to participate in the TCDD study shall submit its acceptance and its commitment within 90 days of the Filing Date.

F-19b EPA shall submit detailed draft plans, specifications and protocols for the study to the other participants within 90 days of the Filing Date.

F-19c All the participants shall meet to resolve any disagreement about the draft within 60 days of EPA's submittal.

F-19d After agreement, all plans, specifications and protocols shall be subject to a 60-day scientific peer review process.

F-19e Simultaneous with the peer review, all plans, specifications and protocols shall undergo a 60-day public comment process.

F-19f Each participant shall conduct its portion of the TCDD Study within the remaining portion of the predetermined 3-year time period.

G. Intermediate Formations (Chapter 5)

G-1 Hooker shall install monitoring wells in the Irondequoit/Reynales Formation.

Reference - Sections 5.2 and 5.3 of the RRT Program

Prerequisites - C-1, E-5, F-1, L-2

Successors - G-2

G-1a Contract preparation and award (60 days).

G-1b Install 7 monitoring wells (70 days).

G-2 Hooker shall sample, analyze, monitor and calculate chemical flux for the Intermediate Formations using the installed monitoring wells.

Reference - Sections 5.3 and 5.4 of the RRT Program

Prerequisites - G-1

Successors - H-1 (Possible RRT)

H. Deep Formations (Chapter 6)

H-1 Pending results of the flux calculations and sampling analysis of activities F-18 and G-2, Hooker shall, if necessary, install 3 monitoring wells in the Deep Formations and monitor through water levels and sampling.

** For the purpose of scheduling it is assumed that this task will not be required.

Reference - Sections 6.3 to 6.5 of the RRT Program

Prerequisites - C-1, F-18, G-2, L-2

Successors - none (Possible RRT)

I. Seep Program (Chapter 7)

I-1 Hooker shall construct a collector pipe system along the east side of the access road and discharge the runoff to the Niagara River. The system shall include catch systems at each of the identified seeps.

Hooker shall collect composite soil samples at each of the specified areas and have the samples analysed for the Soil Survey Parameters as well as TCDD for 10 specific samples. If any Parameters exceed the soil survey level, the sample will also be analyzed for the Gorge Face Soil/Sediment Parameters.

Pending the results of the analyses, Hooker shall remediate specified areas of the Gorge Face using one, two, or all of the following remedial actions as specified:

i) divert seep flow
ii) excavate soil
iii) cover with rock

*** High Priority Activity ***

Reference - Section 7 and Appendix A of the RRT Program
Prerequisites - Filing Date
Successors - none

I-1a Prepare and submit plans, specifications and protocols (20 days). COMPLETE.

I-1b EPA/State review and revisions (30 days). COMPLETE.

I-1c Contract preparation and award (30 days). COMPLETE.

I-1d Initiate all remediation not involving excavation or sampling (15 days). COMPLETE.

I-1e Install collector pipe, collect soil samples, and remediate gorge face (150 days).

I-2 An annual seep survey shall be undertaken to assess seep conditions, beginning in July 1986.

Reference - Section 7.2 of RRT Program

Prerequisite - Filing Date

Successors - none

J. Community Monitoring (Chapter 8)

J-1 Hooker shall install 8 monitoring well pairs in the residential areas to the west and south of the landfill. At each site, one well shall be installed in the overburden and the other in the top 15 feet of the bedrock.

*** High Priority Activity ***

Reference - Section 8 of the RRT Program

Prerequisites - C-1 - high priority

Successors - J-2

J-1a Prepare and submit plans, specifications and protocols (20 days), COMPLETE.

J-1b EPA/State review and revisions (30 days). COMPLETE.

J-1c Contract preparation and award (30 days). COMPLETE.

J-1d Install 8 monitoring well pairs (40 days).

J-2 Hooker shall monitor the well pairs through water level measurements and water and soil air sampling.

Reference - Sections 8.4, 8.5 and 8.6 of the RRT Program

Prerequisites - J-1

Successors - none

K. Capping/Excavation Programs

K-1 Hooker shall install a cap around the perimeter of the Hyde Park Landfill as determined by the Soil Survey.

References - Page I-9, Item B(5) and Page I-50, Item L(1) and (2) of the Settlement Agreement

Prerequisites - E-7, F-7, F-14, L-1

Successors - K-4d

K-1a Prepare and submit plans, specifications and protocols (60 days).

K-1b EPA/State review (60 days) and revisions (30 days).

K-1c Contract preparation and award (60 days).

K-1d Install perimeter cap (120 days).

K-2 Evaluate the public health and environmental risks of implementing the Bloody Run excavation option as compared with the capping option (180 days - assumed).

Reference - Page I-37, Item F and Page V-15, Item J(5)(a) of the Settlement Agreement

Prerequisites - Filing Date

Successors - K-3

K-3 Hooker shall complete the Bloody Run Soil Survey in accordance with the option selected as a result of the risk assessment and shall submit a report containing the extent of the area to be capped or excavated.

References - Page I-38, Items G(1)(a) to (c) and Page I-42, Items H(1)(a) to (c) of the Settlement Agreement

Prerequisites - K-2

Successors - K-4, K-5

K-3a Prepare and submit plans, specifications and protocols (60 days).

K-3b EPA/State review (60 days) and revisions (30 days).

K-3c Contract preparation and award (60 days).

K-3d Complete Bloody Run Soil Survey (120 days).

K-4 Hooker shall complete the Bloody Run Capping/Excavation Program as determined by the risk assessment and the Soil Survey.

References - Page I-40, Items G(1)(d) to (3) and Page I-44, Items H(1)(d) to (3) of the Settlement Agreement

Prerequisites - E-1, K-1, K-3, L-1

Successors - K-5c, K-7d

K-4a Prepare and submit plans, specifications and protocols (60 days).

K-4b EPA/State review (60 days) and revisions (30 days).

K-4c Contract preparation and award (60 days).

K-4d Complete Bloody Run Capping/Excavation Program (120 days).

K-5 Hooker shall install groundwater monitoring wells into the top 15 feet of the bedrock regime adjacent to the Bloody Run.

Reference - Page II-10, Item M of the Settlement Agreement

Prerequisites - C-1, K-3, K-4, L-2

Successors - K-6

K-5a Specific locations (30 days) and EPA/State review (30 days).

K-5b Contract preparation and award (60 days).

K-5c Install 4 monitoring wells (30 days).

K-6 Hooker shall monitor the newly installed groundwater monitoring wells (K-5) as well as the surface runoff and sediment in the Bloody Run diversion channel.

Reference - Page II-4, Items E to G and Page II-10, Items N to P of the Settlement Agreement

Prerequisites - K-5

Successors - none

K-7 Hooker shall install a final cap on the Hyde Park Landfill Site and close the site including security fencing, advisory signs and surveyed benchmarks.

Reference - Page I-50, Item L of the Settlement Agreement

Prerequisites - D-6, K-4

Successors - none

K-7a Prepare and submit plans, specifications and protocols (60 days).

K-7b EPA/State review and revisions (30 days).

K-7c Contract preparation and award (60 days).

K-7d Install landfill cap and close site (90 days).

L. Health and Safety Plans

L-1 Hooker shall submit a Health and Safety Plan for activities deemed to be "Special Construction Activities", EPA/State shall review and disagreements shall be resolved (120 days - assumed).

Reference - Appendix V of the Settlement Agreement
Prerequisites - Filing Date
Successors - B-1d, B-2d, D-3c, D-6c, E-1g, E-6d, F-4c, F-6c, F-10c, K-1d, K-4d, I-1e

L-2 Hooker shall submit a Health and Safety Plan for activities deemed to be "Survey Activities", EPA/State shall review and disagreements shall be resolved (60 days-assumed).

Reference - Appendix V of the Settlement Agreement
Prerequisite - Filing Date
Successors - D-1c, D-2c, D-5c, E-1d, E-5c, E-7c, F-1c, F-2c, F-3c, F-5c, F-7c, F-9c, F-13c, F-15c, F-16c, F-17c, G-1b, H-1, K-5c

USEPA TRANSMITTAL INFORMATION FOR HYDE PARK/BLOODY RUN DOCUMENTS

Andy Bethoney
F&E
F41

TO: G. Shanahan R. Walka
A. Ray
J. Rumbaugh
A. Schatz

FROM: Ms. Christine Beling
U.S. Environmental Protection Agency
Site Compliance Branch
26 Federal Plaza
New York, New York 10278

[XX] For yor review (see schedule)
[ ] For your information

Date of correspondence 12/8/86
Date of E & E transmittal 12/10/86
Activity Code (file reference):
A-1

[ ] Draft plans, specifications, and/or protocols
[ ] Draft report
[ ] Final plans, specifications, and/or protocols
[ ] Final report
[XX] Other: Draft ProjectSchedule

Description of Attachment: Nichter (OCC) to Nosenchuck/Gainti; RE: Schedule and Activity List, Hyde Park Requisite Remedial Technology Program, dated December 8, 1986

Review Scheudle:

Date Item Received From OCC	Date Comments Due to Ms. Beling	Exchange Comments With State	Meet With State/Resolve Comments	Date EPA/State Comments Due to OCC	EPA State Meet With OCC to Resolve Comments
12/8/86	12/29/86		Possibly week of 1/5/87	1/8/87	

Comments:

*Please send a copy of all technical comments to:

Ms. Nancy J. Aungst
Ecology and Environment, Inc.
195 Holtz Drive, P.O. Box D
Buffalo, NY 14225

and

Ms. Christine Beling
U.S. Environmental Protection Agency
Region II
Site Compliance Branch
26 Federal Plaza
New York, New York 10278

XC (with attachments):

Jai Kang (E & E Task Leader)

EP-Files, 2A-1, H.P. Correspondence

MEMORANDUM

TO: Christine Beling

FROM: Nancy J. Aungst

DATE: December 10, 1986

SUBJECT: Distribution of Hyde Park Correspondence: Letter of December 8, 1986 from Nichter (OCC) to Nosenchuck/Gianti; RE: Schedule and Activity List, Hyde Park Requisite Remedial Technology Program

Five copies of the subject correspondence were received by Ecology and Environment, Inc. of Buffalo, New York on December 9, 1986. Additional copies have been made and distributed to the following persons:

Copy 1	*Mr. George Shanahan, Esq.	U.S. EPA Region II-Water Enforcement, New York, NY
Copy 2	*Mr. Arthur Ray, Esq.	U.S. EPA Enforcement Counsel-Waste, Washington, D.C.
Copy 3	*Mr. Jim Rumbaugh	GeoTrans, Herndon, VA
Copy 4	Mr. Jaak Viirland	Ont. Ministry of the Environment, Hamilton, Ontario
Copy 5	Mr. Richard Findlay	Environment Canada Toronto, Ontario
Copy 6	Mr. Matthew Forcucci	U.S. EPA Public Information Office, Niagara Falls, NY
Copy 7	*Mr. Arthur Schatz	Gradient Corporation Cambridge, MA
Copy 8	*Mr. Richard Walka	U.S. EPA Region II-Hazardous Waste Facilities, New York, NY

Please advise me of any additional distribution needed.

NJA/smj
attachments

cc: J. Kang, H.P. Correspondence, EP-Files: 2A-1, (72)

cc: w/o attachments: B. Bentley

---

*Document transmittal sheet sent

Occidental Chemical Corporation

RECEIVED
DEC 09 1986
ECOLOGY & ENVIRONMENT
BUFFALO

December 8, 1986

Norman H. Nosenchuck, P.E.
Director Division of Solid Waste
NYS Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

Mr. Samuel J. Gianti, Jr.
Hyde Park-Bloody Run Area Program Coordinator
Site Investigation & Compliance Branch
United States EPA, Region II
26 Federal Plaza
New York, New York 10278

Reference: Hyde Park Requisite Remedial Technology Program

Dear Sirs:

Pursuant to Section 1.1 of the subject program, Occidental Chemical Corporation is submitting a proposed plan and schedule for completing the remedial work. Please call me at (716)286-3609, if you would like to schedule a meeting to review this plan.

Respectfully,

John R. Nichter

John R. Nichter
Hyde Park Coordinator
Special Environmental Programs

4531eJRNbma
Attachment

Copies: D. Aldrich - 5
N. Aungst - 5
P. Buechi - 3

OxyChem
Special Environmental Programs
Occidental Chemical Center
360 Rainbow Boulevard South, Box 728, Niagara Falls, New York 14302 716/286-3000